~~~~~~~~~~~~~~~~~~~~~~~ To Professor Frederick Eberhardt

https://www.youtube.com/watch?v=2eyFIi9g8N4 Causality: From Aristotle to Zebrafish - Frederick Eberhardt - 10/16/2019

These causation approaches do not work for human specific intelligence, especially when using complex languages and mathematics.

The semantics of "causation", "laws", and many other important phrases varies from time to time, from some cases to other cases. People use intelligence to study intelligence, and use sciences to study sciences, which raise particular difficulties in higher-order logic.

The dynamic semantics with higher-order logic could incur severe problems in logic and judgement, especially in the testing of artificial intelligence. Gödel indicated there are problems in axiomatic systems and logical positivism/empiricism. A better logic system is needed.

There are more channels than synapses on neurons to be studied or even to be discovered. There are other types of signals in brains which you missed. Not to mention quantum entanglement, the assumptions of quanta emerging from nothing, and the world beyond Planck measurement, etc.

~~~~~~~~~~~~~~~~~~~~~~~ To Professor George Ellis

https://www.youtube.com/watch?v=tq8-eLGpEHc George F.R. Ellis, On the Nature of Cosmology Today (2012 Copernicus Center Lecture)

I really appreciate Professor George Ellis said that multiverse is not testable.

The problems are: is discrete or finite physics testable? Is the theory of finite brain states testable? There are more channels than synapses on neurons to be studied or even to be discovered. Not to mention quantum entanglement, the assumptions of quanta emerging from nothing, and the world beyond Planck measurement, etc.

It is difficult to study infinite directly, so analytic mathematics introduced and studied potential infinite, instead of studying infinite directly. However, this does not mean infinite does not exist.

I do not say infinite DOES or DOES NOT exist in physics. Sciences only can falsify certain things. To prove positively, we need better logic. In my logic theory, falsification is equal to positive proof only at some specific critical points in logic.

Argument is valid only if presented directly to the opposite side to allow them to refute. So I post my questions here.

Just a reminder, infinite DOES exist in mathematics. Square root of 2 requires the concept of infinite. So infinite also exists in intelligence, one of the reasons why the sciences of intelligence are different from the sciences of physics.

In physics, if you think square root of 2 just be an approximation of something, then the number 1 also be an approximation of something in physics.

So the sciences of intelligence is a different domain from the sciences of physics. The sciences of intelligence study the essences and development of languages, mathematics, philosophies, sciences, etc.

Please note that Professor George Ellis used natural languages to make the presentation. People use intelligence to study intelligence, and use intelligence sciences to study sciences, which raise particular difficulties in higher-order logic. So a better higher-order logic system is critical to intelligence sciences.